

**HERC'S outpatient average cost dataset for VA care:
Fiscal Years 1998-2000**

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Chapter 1. Overview

This document describes the HERC Outpatient Cost Files. These files contain our estimate of the cost of each outpatient encounter reported in the national VA databases since October 1, 1997. The HERC files can be linked to VA utilization databases to find patient demographics, location of care, services provided, and patient diagnosis. These estimates are designed to be useful to researchers and VA managers who need to estimate the relative value of service units delivered by VA providers and programs. The HERC Outpatient Cost files include three different estimates of the resources used in each VA outpatient encounter.

- **HERC Value.** This is the hypothetical reimbursement based on Medicare and other reimbursement methods. VA characterizes the services it provides to outpatients using the Current Procedure Terminology (CPT) coding system.¹ This is the same system that non-VA providers use to bill for their services. We used these codes to estimate a hypothetical payment for each VA outpatient visit. This hypothetical payment is our non-VA measure of relative value. We call this the “HERC value,” our shorthand way of referring to the “hypothetical reimbursement amount using Medicare and other payment methods.”
- **National Cost Estimate.** The national cost estimate represents the national average cost of the visit, given its CPT codes and clinic type. It is the HERC value adjusted to reflect actual expenditures for outpatient care, as reported in the VA Cost Distribution Report. Adjustments were made so that the sum of the national cost estimates for all VA outpatient visits was equal to the cost that VA incurred in each of 12 categories of ambulatory care. We created the national cost estimate by assuming that all visits to the same type of clinic that involved the same CPT codes have identical cost, regardless of the actual expenses of the medical center. For each type of clinic, the sum of our national cost estimates equals the total VA expenditure of ambulatory care (exclusive of pharmacy and prosthetics).
- **Local Cost Estimate.** The local cost estimate was constructed to represent the local average cost of the visit, given its CPT codes and type of clinic. It is the national cost estimate, adjusted to reflect the actual cost of ambulatory care at the medical center, as reported in the Cost Distribution Report. For each VA medical center, the sum of the local cost estimates equals the total CDR expenditure for ambulatory care in that medical center.

This manual provides a detailed description of the methods used to prepare these estimates.

¹ CPT codes were developed by the American Medical Association to characterize physician services. Medicare characterizes other health care services using the Health Care Financing Administration Common Procedure Coding System (HCPCS). When we refer to CPT codes in this document, we also mean HCPCS codes.

Chapter two describes the methods we used to calculate VA cost of care. It describes how we merged VA cost and utilization databases. It also describes how we assigned each type of VA clinic to one of 13 categories of ambulatory care, defined by aggregating accounts in the VA Cost Distribution Report.

Chapters three and four describe our methods of estimating the HERC value. When outpatient care is provided in a hospital-based clinic, both the provider and the facility are reimbursed by Medicare. We followed Medicare's methodology to estimate both the provider and facility payments. Provider payments are described in Chapter three. Facility payments are the subject of Chapter four.

We chose the Medicare reimbursement method as our primary source of payment rates because Medicare is a national program with a well described payment method that is based on extensive study of the "economic costs", as compared to "accounting costs"³ of providing services. Medicare pays 22% of the cost of physician services provided in the U.S. Its reimbursement rate also represents costs from the perspective of the health care payer.

Because VA provides services that are not covered by Medicare, we supplemented the Medicare schedule with other payment methods. Some of the CPT codes used by VA are not normally used to bill for ambulatory care. We made judicious assumptions to estimate the appropriate reimbursement for services represented by these codes.

Chapter five is the user's guide. This chapter describes the variables in the HERC data set. Chapter six describes the results of our validation of the HERC datasets.

1.1 Assumptions made to estimate payments and costs

VA annually provides some 60 million outpatient encounters in hundreds of VA clinics. These visits include 100 million services and procedures, which VA has characterized with upwards of 10,000 different procedure codes. It was not possible for us to directly measure the cost of the individual encounters, or extensively investigate the accuracy of VA coding. Rather, estimating the cost of this care required a number of analytic assumptions. We list our major assumptions here, and describe them more fully in the subsequent pages.

- 1. All ambulatory care is comprehensively characterized by the CPT codes used in the national VA outpatient events database.** We assumed that the CPT codes recorded in VA outpatient databases accurately reflect the outpatient care VA actually provided and that no additional services were provided by VA.

² CPT codes were developed by the American Medical Association to characterize physician services. Medicare characterizes other health care services using the Health Care Financing Administration Common Procedure Coding System (HCPCS). When we refer to CPT codes in this document, we also mean HCPCS codes.

³ Economic costs are the opportunity costs of production; they may differ from accounting cost. Economic costs represent society's long-run expenses for delivery of care.

- 2. All CPT codes used by VA represent a service that should be assigned a cost.** Many of the CPT codes used by VA would be rejected by third party payers in the private sector. For example, telephone care, follow-up surgical visits, and services assigned non-specific procedure codes are not covered by Medicare. Rather than taking a payer's perspective, we assumed that every code used by VA represented a service that should be assigned a cost.
- 3. Costs are proportionate to payment rates.** We assumed that VA cost of providing ambulatory care was proportionate to the estimated Medicare payment associated with each CPT code. We used Medicare reimbursement schedules, supplemented with selected private sector or other government reimbursement schedules for services not covered by Medicare.
- 4. Some of Medicare's reimbursement methods were not appropriate for VA.** We calculated a national average Medicare payment, without applying geographic adjustments for local market wage differentials. We did not use the Medicare established global payments for surgical services. Instead, we broke these down to a specific payment for each service covered by the global rate, (e.g., we found the separate payments for surgeries and follow-up visits.) We assigned payments to services that would not be reimbursed by Medicare.
- 5. Non-standard service codes represent valid costs.** Some CPT codes used by VA are not normally used to prepare outpatient bills in the private sector. These include codes for procedures that are only provided to inpatients, codes that are obsolete, and codes that are not sufficiently specific to be accepted by third party payers. We assumed that these codes represent a service provided by VA. Due to this insufficient data, we were forced to use assumptions to estimate the payments for this care. These additional assumptions are described in chapters three and four.
- 6. Payments should include facility payments.** Because most VA care is provided in a setting that meets the Medicare definition of a facility, we included facility payments. Medicare defines a facility as a hospital based clinic, a skilled nursing facility, a freestanding surgery center, a comprehensive outpatient rehabilitation facility, or a community mental health center.
- 7. VA incurs the cost of ambulatory care reported in the Cost Distribution Report.** We used the VA Cost Distribution Report (CDR) to adjust the resulting relative payments to VA total costs at the medical center and national levels. We assumed that patient care costs listed in the CDR were comprehensive and valid. To create our national cost estimates, we assumed that the total national cost of providing VA ambulatory care in each of 11 categories of care was as reported in the CDR. The same assumption was made for the local, or medical center level aggregation.

8. **Indirect cost are incurred in proportion to direct costs.** We distributed the indirect cost of ambulatory care reported in the CDR to different types of ambulatory care. We used direct cost as the basis of this distribution.
9. **The CDR distribution of cost between inpatient and outpatient is accurate at each individual medical center.** To create our local cost estimates, we assumed that the total cost assigned to ambulatory care at each medical center was accurate. However, we did not assume that the cost reported in each category of care at each medical center was accurate. The local cost reflects both national and local distribution of costs, as described in Chapter five.

1.2 Limitations of HERC Cost Estimates

Analysts who use the HERC database need to be aware of the limitations that result from our assumptions

- **No pharmacy utilization, payments or cost.** We did not estimate pharmacy costs. Researchers who need this information should turn to the Pharmacy Benefits Management system, or the national DSS pharmacy extract.
- **Prosthetics payments estimation.** Based on the evidence by several investigators, we believe that the national outpatient VA utilization files underreport prosthetics “services” supplied by VA. We only estimated the hypothetical payment associated with services provided in prosthetics “clinics”. Our national and local estimates of prosthetic clinics’ costs are simply a restatement of these payments.
- **HERC values do not necessarily equate to actual VA costs, practice patterns, or productivity.** We estimated economic values for each outpatient encounter. This estimate is useful for studies that need an estimate of product value from the payer’s perspective such as Medicare. The HERC value does not necessarily reflect actual VA expenditures, nor does it reflect the effect of VA practice patterns or provider productivity. For example, it does not represent the effect of geographic variation in wages or other costs. Analysts who wish to determine the effect of practice patterns and provider productivity on resource use will need to undertake staff activity analysis, a method sometimes referred to as micro-costing.)

Chapter 2. Cost and Utilization Data

This chapter describes sources of VA cost and utilization data used to create the HERC Outpatient Cost Files. It describes in detail the following methodology:

- We excluded the cost of facilities that do not provide patient care.
- We made adjustments for situations in which facilities had consolidated. Facilities have consolidated over time, but these consolidations were not necessarily implemented at the same time in the cost and utilization databases. We recoded data to keep a common definition of facility in the databases.
- Since patient care departments are sometimes defined differently in the cost data than in the utilization data, we aggregated departments to find a common denominator.

2.1 The VA Cost Distribution Report

The Cost Distribution Report (CDR), also called report RCS 10-0141, is routinely prepared by all VA medical centers. The CDR represents an estimate of the costs expended by each VA “patient care department”.

VA expenditures are recorded in a general ledger, the Financial Management System (FMS). FMS tracks expenditures by “cost center,” an accounting entity that corresponds to a VA “service.” Cost centers do not necessarily correspond to a specific patient care department. Examples of VA cost-centers are Medicine and Plant Operations.

The CDR is created by distributing costs reported in the FMS cost centers to the “cost distribution accounts” (CDAs) of the CDR. CDAs include patient care departments, such as Medicine, Admitting Screen, or Ambulatory Surgery. CDAs also include indirect cost departments such as Building Management.

The distribution of costs is based on estimates prepared by the service chiefs in each medical center. They estimate the amount of time staff spent on different activities. The cost of staff time, as reported in FMS, is then assigned to each CDA. At the end of each fiscal year, a cumulative CDR is prepared, and it is reconciled to the costs reported in FMS. We used the end-of-year CDR Detail file as our source of these allocations and dollar values, as it includes indirect cost CDAs for equipment and building depreciation.⁴

⁴ This report is the file named RMTPRD.SYS.CDR.DETAIL.EOYfy where “fy” denotes the federal fiscal year. Federal fiscal years run from October 1 to September 30, and are referred to by the end in which they end, thus the 1998 federal fiscal year is the period ending September 30, 1998.

To capture the cost of outpatient care, we selected ambulatory care cost distribution accounts that ranged between 2110 and 2800, and home health care accounts numbered 5000-5117. Table 2.1 lists the outpatient cost distribution accounts. Cost accounts for inpatient care, contract providers, and associated fringe benefits were not used to create the HERC outpatient cost files and are not included in table 2.1.

Table 2.1. Outpatient Cost Distribution Accounts in the VA Cost Distribution Report as of FY00

DEPARTMENT	DIRECT COST	INDIRECT COST
MEDICINE – SOC	2110	2800
ADMITTING/SCREENING	2111	
HIV/AIDS OP CLINICS	2119	
OP PRIMARY CARE MED	2130	
SURGERY – CBC	2210	
AMB OPERATING ROOM	2211	
OP PRIM CARE SURG	2230	
SPEC PSYCH – SOC	2310	
GEN PSYCH – SOC	2311	
HCHV/HMI SOC	2312	
PTSD CLINICAL TEAM	2313	
PSYSOCIAL-GRP SOC	2314	
PSYSOC-IND SOC	2315	
SUBSTANCE ABUSE (OP)	2316	
SUBSTANCE USE DISORD	2317	
HUD/VASH SOC	2318	
COMMUNITY OUTREACH	2319	
OP PRIM CARE SPT SOC	2330	
OP PRIM CARE GEN SOC	2331	
DIALYSIS – SOC	2410	
CANCER TREATMENT	2420	
ADULT DAY HLTH CARE	2510	
ANCILLARY SVC – SOC	2610	
REHAB-SUPT SVCS	2611	
DIAGNOSTIC SVC – SOC	2612	
PHARMACY – SOC	2613	
PROSTHETICS/ORTHOT	2614	
SCI SUBS ABUSE OP	2616	
DENTAL PROCEDURES	2710	
DOM AFTERCARE – VA	2750	
TELEPHONE CONTACTS	2780	
HOSPITAL BASED HOME CARE	5110	5000
HOME DIALYSIS	5111	
SPINAL CORD INJURY HOME CARE	5112	
RESIDENTIAL CARE HOME PROGRAM	5113	
OTHER HOME CARE PROGRAMS	5114	
COMM BASED DOM AFTERCARE	5115	
HOMEMAKER/HOMEHEALTH	5116	
INTENS PSYCH COMM CARE	5117	

2.2 Distribution of Indirect Cost

Our average cost estimate required information about each CDA, including its share of indirect costs. The CDR distributes indirect costs only to groups of patient care departments. Table 2.1 shows the correspondence between direct and indirect costs in the CDR. The middle column lists the direct cost CDAs. These represent costs directly attributed to patient CDAs, such as the cost of outpatient physician services, nursing staff, laboratory services, supplies, etc. The right column provides the indirect CDAs.

The CDR reports the indirect cost of all ambulatory care in account 2800. This account represents the indirect cost of the 31 ambulatory care direct cost accounts numbered 2110-2780. A separate account, 5000, represents the indirect cost of the eight home health care accounts that are numbered 5110-5117. Each of these indirect CDA accounts include as many as eleven different types of indirect costs, each distinguished by numbers to the right of the decimal place. The types of indirect costs include education (.11, .12, .13, .14), research (.21 and .22), administrative support (.30), building management (.40), engineering (.50), equipment depreciation (.70), building depreciation (.80).

We distributed these indirect costs to their corresponding direct cost accounts. We used the proportion of direct cost as the basis of this allocation. For each medical center, we calculated the proportion of the direct cost of ambulatory care in each direct cost ambulatory care account. This fraction was then used to calculate how much of the indirect cost of ambulatory care was assigned to that account. The same method was used to distribute the indirect cost of home health care to the direct cost home health care accounts.

2.3 The VA Outpatient Events File

Utilization data are reported in the 1998-2000 VA national patient care database outpatient procedures file. This file contains data on approximately 60 million patient visits, including CPT codes, stations, and clinic stop codes. (This file is named MDPPRD.MED.SAS.SEfy, where “fy” represents the last two digits of the federal fiscal year.).

Table 2.2 lists the number of encounters and the number of CPT codes (procedures) identified in this file in each of the three years.

Table 2.2 Outpatient Encounters and Procedure Codes in VA Outpatient Events File, 1998-2000

	1998	1999	2000
Outpatient Encounters	57,630,056	61,640,982	63,637,301
Services and Procedures (Number of CPT Codes Assigned)	97,479,106	106,080,231	107,239,449

2.4 Facilities with Cost Excluded

We excluded facilities that reported costs in the CDR, but did not report utilization in the outpatient events file. These included records for VA Headquarters (station 101), information services centers, and other VA support facilities. A list of these facilities, and their 3-digit facility number, is provided in Table 3. Most of these facilities do not appear in the official listing of VA facilities.⁵ Most of these costs were incurred at VA Headquarters. We felt that central administration may involve activities that are more characteristic of a health care payer, rather than a health care provider. For this reason, we decided to exclude these costs. The table lists the facilities that incur outpatient cost but do not provide care, and the amount of outpatient and home health care cost that we excluded.

Table 2.3 Facilities with Cost Excluded and Amount of Excluded Cost, 1998-2000

Facility Number	Facility Name	1998	1999	2000
101	VHA Headquarters	61,586,995	62,722,578	60,170,922
741	Denver CHAMPVA	226,286	279,105	438,812
742	*	31,842	-152	0
760	*	1,239	1,362	1,092
761	*	4,759	651	902
762	*	4,508	10,459	5,759
763	*	333,038	338,505	542,782
764	*	1,095	1,066	1,130
765	*	0	1,307	2,817
766	*	-32,599,860	13,715	6,306
797	Hines, IL	1,002	0	26,711
Total cost excluded		29,590,902	63,368,595	61,197,232

* Facility name unknown, facility number not listed VA address bulletin

2.5 Facility Integrations

In recent years, VA combined a number of neighboring facilities into a single health care system. Cost and utilization reports identify facilities by a 3-digit number (STA3N). When two facilities were merged, one of the facilities switched to the identification number used by the other. Unfortunately, this switch did not necessarily occur in both the cost and utilization databases at the same time.

We matched cost and utilization data so that facility integrations were handled uniformly in both databases. We treated all facility integrations as if they occurred at the beginning of the fiscal year. The facility identifier (STA3N) in the HERC Outpatient Cost File was not affected by this matching process, however the HERC file uses the same identifier for each visit that appears in the outpatient event file. The table below lists the

⁵ Consolidated Address and Territorial Bulletin 1-L, U.S. Department of Veterans Affairs, Washington, DC 20420, August 31, 1999

medical centers that were reassigned; it also lists the fiscal year in which the reassignment was needed.

Table 2.4 VA Facility Integrations that did not Occur Uniformly in Cost and Utilization Data

VHA Integrated Health Care Systems	Fiscal Year	Old facility	New facility
Central Iowa Health Care System	1998	Knoxville (592)	Des Moines (555)
Greater Nebraska Health Care System	1998	Grand Island (574)	Lincoln (597)
Eastern Kansas Health Care System	1998	Leavenworth (686)	Topeka (677)
Montana Health Care System	1998	Miles City (617)	Ft. Harrison (436)
Boston Health Care System	1999	Brockton (525)	Boston (523)
Greater Los Angeles HCS	1999	Sepulveda (665)	West Los Angeles (691)
Upstate NY Health Care System	2000	Albany (500)	Buffalo (528)
Upstate NY Health Care System	2000	Bath (514)	Buffalo (528)
New York Harbor Health Care System	2000	Brooklyn Poly Place (527)	Brooklyn (630)
Upstate NY Health Care System	2000	Canandaigua (532)	Buffalo (528)
Nebraska Western Iowa HCS	2000	Des Moines (555)	Omaha (636)
Nebraska Western Iowa HCS	2000	Lincoln (597)	Omaha (636)
Upstate NY Health Care System	2000	Syracuse (670)	Buffalo (528)

2.6 Definition of Categories of Outpatient Care

Patient care units are defined differently in the CDR than in the outpatient database. Care is characterized in the CDR by the cost distribution account. In the VA outpatient database, care is characterized by a location identifier, a 3-digit clinic stop code (more recently renamed the DSS identifier). VA policy relates clinic stop codes to accounts in the CDR. This relationship is described in VHA Directive 96-057 "Ambulatory Care Data Capture FY98 Decision Support System." Identifiers (DSS ID's)," <http://www.va.gov/publ/direc/health/direct/196057c3.htm>.

Not every CDR account has a clinic stop code. We assumed that codes referring to home health visits should be matched to the home health care cost distribution accounts (these were stop codes 118, 119, 121, 170-177), and that emergency care (101), local identifier codes (450-499), telemedicine (690) and screening visit codes (clinic stops 701-712) should be matched to the medical outpatient care accounts.

We aggregated cost distribution accounts, and the care in their associated clinic stops into 13 categories of outpatient care. We felt that there was insufficient accuracy in the cost and utilization data to merge them at a finer level of detail. We grouped CDR accounts into the 13 categories based on the similarity of services provided and the personnel providing them. For example, all types of physical and occupational therapy were grouped together; medical clinics were grouped together but kept distinct from visits to surgery clinics. The 13 categories of care and their associated CDR accounts appear in Table 2.5.

Table 2.5 HERC Defined Categories of Care and VA Cost Distribution Report Accounts

CDR Account	CDR Account Name	HERC Category of Care
2110	MEDICINE – SOC	21 Outpatient Medicine
2111	ADMITTING/SCREENING	21 Outpatient Medicine
2130	OP PRIMARY CARE MED	21 Outpatient Medicine
2210	SURGERY – CBC	28 Outpatient Surgery
2211	AMB OPERATING ROOM	28 Outpatient Surgery
2230	OP PRIM CARE SURG	28 Outpatient Surgery
2310	SPEC PSYCH – SOC	29 Outpatient Psychiatry
2311	GEN PSYCH – SOC	29 Outpatient Psychiatry
2312	HCHV/HMI CBC	29 Outpatient Psychiatry
2313	PTSD CLINICAL TEAM	29 Outpatient Psychiatry
2314	PSYSOCIAL-GRP SOC	29 Outpatient Psychiatry
2315	PSYSOC-IND SOC	29 Outpatient Psychiatry
2316	SUBSTANCE ABUSE (OP)	30 Outpatient Substance Abuse Treatment
2317	SUBSTANCE USE DISORD	30 Outpatient Substance Abuse Treatment
2318	HUD/VASH CBC	29 Outpatient Psychiatry
2319	COMMUNITY OUTREACH	29 Outpatient Psychiatry
2330	OP PRIM CARE SPT SOC	29 Outpatient Psychiatry
2331	OP PRIM CARE GPT SOC	29 Outpatient Psychiatry
2410	DIALYSIS – SOC	22 Outpatient Dialysis
2420	CANCER TREATMENT	21 Outpatient Medicine
2510	ADULT DAY HLTH CARE	32 Outpatient Adult Day
2610	ANCILLARY SVC – SOC	23 Outpatient Ancillary Services
2611	REHAB-SUPT SVCS	24 Outpatient Rehabilitation
2612	DIAGNOSTIC SVC – SOC	25 Outpatient Diagnostics Services
2613	PHARMACY – SOC	26 Outpatient Pharmacy
2614	PROSTHETICS/ORTHOT	27 Outpatient Prosthetics
2710	DENTAL PROCEDURES	31 Outpatient Dental
2750	DOM AFTERCARE – VA	29 Outpatient Psychiatry
5110	HOSPITAL BASED HOME CARE	33 Home Care
5111	HOME DIALYSIS	22 Outpatient Dialysis
5112	SPINAL CORD INJURY HOME CARE	33 Home Care
5113	RESIDENTIAL CARE HOME PROGRAM	33 Home Care
5114	OTHER HOME CARE PROGRAMS	33 Home Care
5115	COMM BASED DOM AFTERCARE	33 Home Care
5116	HOMEMAKER/HOMEHEALTH	33 Home Care
5117	INTENS PSYCH COMM CARE	29 Outpatient Psychiatry

2.7 Telephone Care

The CDR includes a separate account for the cost of all telephone care given by VA ambulatory care providers. This account is an estimate of the cost of all outpatient care providers, (e.g. physicians, nurse practitioners, pharmacists, nurses in primary care

clinics or social workers and counselors in substance abuse programs). We believed that these estimates were unlikely to be accurate. Therefore, we distributed the telephone care costs back to the component clinics that provided the telephone care. Each clinic was assigned costs on the basis of its share of the total number of telephone encounters. Table 2.6 provides the telephone clinic stops and the category of care to which we assigned it.

Table 2.6 Assignment of Telephone Clinics to HERC Categories of Care

Clinic Stop Number	Standard VA Clinic Stop Name (2001)	HERC Category of Care
103	TELEPHONE TRIAGE	21
147	TELEPHONE/ANCILLARY	23
148	TELEPHONE/DIAGNOSTIC	24
169	TELEPHONE/ CHAPLAIN	23
178	HBPC/ TELEPHONE	33
181	TELEPHONE/ DENTAL	31
216	TELEPHONE/REHAB & SUPPORT	24
324	TELEPHONE/ MEDICINE	21
325	TELEPHONE/ NEUROLOGY	21
326	TELEPHONE/ GERIATRICS	21
424	TELEPHONE/ SURGERY	28
425	TELEPHONE/ PROSTHETICS/ ORTHOTICS	27
428	TELEPHONE/ OPTOMETRY	28
526	TELEPHONE/ SPECIAL PSYCHIATRY	29
527	TELEPHONE/ GENERAL PSYCHIATRY	29
528	TELEPHONE/ HOMELESS MENTALLY ILL	29
530	TELEPHONE/HUD-VASH	29
536	TELEPHONE/ MH VOCATIONAL ASSISTANCE	29
537	TELEPHONE/ PSYCHOSOCIAL REHABILITATION	29
542	TELEPHONE/ PTSD	29
543	TELEPHONE/ ALCOHOL DEPENDENCE	30
544	TELEPHONE/DRUG DEPENDENCE	30
545	TELEPHONE/SUBSTANCE ABUSE	30
546	TELEPHONE/ MHICM	29
579	TELEPHONE/ PSYCHO-GERIATRICS	29
611	TELEPHONE/ DIALYSIS	22
729	TELEPHONE/ DOMICILIARY	29

2.8 Reassignment of Mismatched Cost and Utilization to Different Categories

For some categories of care at some medical centers, there were apparent mismatches between cost and utilization data. We identified the most egregious of these by finding categories of care that had costs without utilization, or utilization without cost. This problem was especially prevalent in home health care, adult day care, and prosthetics care categories.

For these cases, we reassigned the costs (or the utilization) to another category of care. We attempted to reassign the costs (or utilization) to a similar category. Before

reassigning the unmatched cost (or utilization) we evaluated whether other categories showed evidence of missing utilization (or cost), by comparing the facilities' mean cost to the national mean cost. When there was a choice of reassignment, we chose the reassignment that brought the facility mean cost in line with the national mean.

These reassignments were minor in scope and accounted for much less than 0.1% of VA cost and outpatient visits. The number of encounters and the total dollars of cost that was reassigned are found in Table 2.7.

**Table 2.7 Reassignment of Mismatched Cost and Utilization to HERC
Categories of Care**

	1998	1999	2000
Visits Reassigned	16,450	14,228	46,775
Dollars Cost Reassigned	\$1,689,310	\$1,822,870	\$2,015,189
Percent of VA Total Output	.024 %	.024%	.024%
Total Dollars VA Output	\$6,883,968,211	\$7,552,839,588	\$8,455,153,148

These cost reassignments had minor impact on the values reported in the HERC Outpatient Cost File. The reassignment of cost or utilization affected the national total for the categories of care. We did not use either cost or utilization data within categories of care at a specific facility to create our cost estimates.

Table 2.8 shows the CDR costs with all of these adjustments and the number of visits from the Outpatient Events file for each category of care for 1998-2000.

Table 2.8 Cost and Utilization by HERC Category of Care

Category Number	Category Name	Cost (dollars)			Utilization (visits)		
		1998	1999	2000	1998	1999	2000
21	Outpatient Medicine	1,859,610,987	2,046,463,537	2,310,789,310	14,672,427	15,675,347	16,417,189
22	Outpatient Dialysis	92,038,618	89,264,146	97,494,620	245,689	268,012	275,160
23	Outpatient Ancillary Services	175,472,642	171,804,287	195,494,620	3,965,810	3,973,390	3,965,810
24	Outpatient Rehabilitation	217,815,651	230,963,672	264,348,590	3,378,980	3,388,962	3,349,965
25	Outpatient Diagnostics Services	684,980,236	701,234,250	759,051,648	17,780,395	20,384,431	21,934,534
27	Outpatient Prosthetics	233,419,750	240,501,759	265,552,185	621,100	631,216	530,028
26	Outpatient Pharmacy	1,992,769,244	2,315,795,046	2,652,165,809	-	-	-
28	Outpatient Surgery	628,371,985	698,783,132	758,737,263	5,232,338	5,405,029	5,472,544
29	Outpatient Psychiatry	506,355,063	551,176,793	599,024,008	6,836,982	7,016,745	6,947,192
30	Outpatient Substance Abuse Treatment	179,732,106	180,741,688	182,696,246	3,134,322	3,146,595	3,034,108
31	Outpatient Dental	176,258,158	179,924,614	186,487,626	1,038,448	1,038,618	1,006,533
32	Outpatient Adult Day	12,329,907	11,126,160	10,224,767	132,936	123,895	113,906
33	Home Care	124,813,865	135,060,504	173,086,964	590,371	588,742	563,095
	Total, all categories	6,883,968,211	7,552,839,588	8,455,153,148	57,629,798	61,640,982	63,639,920

Chapter 3. HERC Provider Payment

We calculated hypothetical payments for every VA outpatient visit using Medicare and private sector reimbursement rates. We called this payment the “HERC value.” Simply put, the “HERC value” is a hypothetical payment derived by using Medicare and other reimbursement rates.

Health care payers pay both providers and facilities. This chapter describes our method of finding the provider component of the HERC value. Chapter four describes the facility component of the HERC value.

Medicare payments differ between office-based and facility-based physicians. Since we assumed that all VA care is provided in a facility, we used the payment rate for facility-based physicians. Although the payment to an office-based physician is usually greater than the payment to a facility-based physician, the facility receives a separate payment that usually exceeds this difference.

Medicare provider payments cover not only physician services, but include other items such as laboratory tests, diagnostic imaging, and medical supplies. Medicare uses the Resource Based Relative Value Scale (RBRVS) to calculate provider payments. RBRVS is based on detailed study of the cost of production (Hsiao, et al., 1992) and this system replaced reimbursement based on customary fees in 1989. The RBRVS estimates the economic costs of a physician’s work. These RBRVS values are weights that are based on the time it takes to provide a service or perform a procedure. They also reflect the minimum training required to provide a given service; this compensates providers for income lost during their years of training. Compensation is higher for more stressful tasks; this compensates providers for the effect of stress on productivity and the cognitive contribution that is required.

3.1 Application of Medicare Reimbursement Methods

The Medicare reimbursement algorithm is complex. We adapted and simplified it to meet our goal of using this payment scheme to estimate economic cost as dollar values that reflect the special situation of the VA. These adaptations are discussed below. The discussion includes our handling of the geographic adjustment to provide payments, our treatment of payments for practice expense, procedures subject to global payment, and the split between technical and professional components.

3.1.1 Geographic Adjustment

Medicare geographically adjusts all three components of the RBRVS payment: physician work, practice expense, and malpractice expense. We did not employ these geographic adjustments. We were interested in estimating a payment that represented the national average value (cost) of care rendered, from the payer’s (VA’s) perspective.

We used the national payment *without* any geographic adjustment. The HERC national value for an identical service is the same regardless of where in the country it is provided. Analysts who want estimates that reflect the effect of geographic variations in costs should use the HERC local cost estimate (see chapter 5).

3.1.2 Resource Based Practice Expense

HERC used the RBRVS relative value units for the practice expense component of the provider payment. We did not use the historic rates that Medicare uses to calculate payments. Before 1999 the Medicare payment was entirely based on historic physician practice cost; since 1999 Medicare has been phasing in payment that is based on the RBRVS relative value. This “phase-in” will be complete by 2002. We used the RBRVS rates, as we believe they are a more accurate estimate of the actual economic costs of the practice expense associated with each service.

3.1.3 Procedures Subject to Global Reimbursement Rates

Medicare reimburses providers with a global payment for procedures. This payment is for pre-operative care, procedures, and post-operative care. The payment is the same regardless of the number of pre-operative and post-operative visits.

For procedures subject to global reimbursement, Medicare identifies what part of the reimbursement is for performing the procedure, and what part is for all other covered services. Our goal was to develop VA cost estimates that reflect actual resource use. Instead of using the Medicare global payment, we unbundled the services. For procedures that Medicare assigns a global payment, we used the payment for the procedure alone, and assigned specific costs for each pre-operative and post-operative care. Our estimates thus reflect variations in resource associated with a different number of pre-operative and post-operative visits.

Because it pays for post-operative visits via global payments, Medicare does not have a reimbursement rate for post-operative visits (CPT code 99024). We used the reimbursement rate for a brief Evaluation and Management visit with an established patient, CPT code 99211, when CPT code 99024 was used. VA may code some post-operative visits with other visit codes (e.g., standard evaluation and management codes).

3.1.4 Bundling of Professional and Technical Component

Medicare allows separate payment for the professional and technical components of services that can be split across providers. Radiographic images are a classic example of this. The physician who interprets an image bills for the professional component, the provider who takes the x-ray bills for the technical component. VA does not distinguish between these activities in its data, so we used the bundled payment rate.

3.2 **Relative Value Units and Fee Rate Conversation Factors**

Under RBRVS, Medicare calculates payments in terms of relative value units (RVUs). Medicare issues a “conversion factor” that converts the RVUs to dollars. There are separate conversion factors for anesthesiologists and other providers. The conversion factors used by Medicare are updated annually; they are listed in Table 3.1.

Table 3.1 Medicare Fee Rate Conversion Factors Used to Determine Reimbursement Amount from Relative Value Units, 1998-2000

	1998	1999	2000
Anesthesiology	16.88	17.24	17.77
All Other Providers	33.64	34.73	36.61

For a few services, the reimbursement is not set by RVUs and conversion factors, but is found in a Medicare fee schedule.

3.3 Sources of Provider Payment Data

We relied on Medicare RBRVS methods wherever possible, but used a variety of sources so that every CPT code was assigned a plausible payment. Section 3.5 describes how we estimated payments for VA services characterized by VA's non-standard use of CPT codes.

3.3.1 Year 2000 Medicare Reimbursement Schedule

We used the 2000 Medicare RBRVS schedule as our primary source of relative value units. We used this because it was the most comprehensive source data, and it was consistent with our sources of data which were only available for the year 2000, including RVUs for gap services (described in the next section) and the schedule of facility payments (described in Chapter four).

The consequences of applying year 2000 Medicare relative value units to earlier years' data are very small. Medicare makes few changes in RVUs from year-to-year. Most changes involve the addition of new procedures or modifications of the procedure coding system.

Although we used 2000 relative value units, we used the conversion factor for the year in which the service was actually provided. For example, to estimate the provider portion of the HERC value for 1998 we multiplied the 1998 conversion rate by the year 2000 relative value unit.

3.3.2 Medicare Schedules from Other Years

For a small number of procedures, we used Medicare RVUs from other years. We used the RVUs in the 1997 Medicare RBRVS schedule for procedure codes that had become obsolete by the year 2000. We used the 2001 Medicare RBRVS schedule for professional services that were not covered by Medicare in 2000.

3.3.3 "Gap Codes"- RBRVS Methods for Services not Covered by Medicare

Many outpatient professional services provided by VA are not covered by Medicare. Examples of these services include some preventive care, and telephone contacts. Although Medicare does not cover these services, we wished to assign a comparable reimbursement (the “HERC value”) and to estimate their cost.

Many non-Medicare payers used RBRVS methodology. These payers reimburse providers for some services not covered by Medicare. Since these professional services represent a “gap” in Medicare coverage, these codes for the services are often times referred to as “gap codes.”

RVUs for gap code services are published by Ingenix Corp (Ingenix, 2000). Ingenix uses the same RBRVS method employed by Medicare to estimate relative values. We used available Ingenix RVUs for year 2000 to find the HERC value for gap code services. We supplemented these with Ingenix codes for year 2001. We applied the same methods, assumptions, and conversion factors that we applied to RVUs obtained from Medicare.

3.3.4 Dental Fee Surveys

Dental services are characterized by Medicare HCPCS codes that begin with the letter “D”. We estimated the HERC value using the national median charge reported in two national surveys. We first used data from the 1999 survey of the American Dental Association (ADA 2000). For dental services not covered by the ADA, we used the 1999 survey data from the 2000 National Dental Advisory Service (NDAS 2000). We adjusted charges from the survey year to the year of utilization using the average ratio of Medicare conversion factors for the same years.

3.3.5 VA Contract Rates

For VA compensation and pension exams, we used the national average contract cost of \$437. The data was obtained from a status report provided by Robert Epley, Director, Compensation and Pension service. The data is from a pilot study authorized by PL 104-275. These statistics represent data from May 1 through Dec. 27, 1998. The average cost is based on 18,907 exams performed under contract by QTC Medical Group, Inc. The payment to QTC includes physician time, scheduling, correspondence and a complaint resolution process.

3.3.6 California Workers Compensation Charges

We used payments allowed by the California Workmen’s Compensation System to calculate the HERC values for rehabilitation services not covered by Medicare. We rescaled the California RVUs so that they could be used with the Medicare conversion factor. For services that were covered by Medicare and were also in the California RVU schedule, we calculated the ratio of Medicare to California RVU. The median ratio was 6.22. This was multiplied by the California RVU to remove any regional inflation rates.

3.3.7 Physician Charge Surveys

For the remaining physician services for which we had no payment amount, we used the median charge reported in a survey of U.S. physicians (PFR 2000). We adjusted these charges to make them consistent with Medicare reimbursement rates.

For services covered by Medicare that had a charge reported in the survey, we calculated the ratio of year 2000 Medicare reimbursement to this survey's median charge. The median of this ratio was 0.53. We multiplied the charges in the survey by this value to find the HERC value for year 2000; for the earlier years, we also adjusted the payment for the change in Medicare conversion factors.

3.3.8 Other Sources

We used additional sources of payment rates for services that did not have RVUs in the Medicare or Ingenix gap code schedules.

When medication is administered by a provider, a HCPCS code is assigned. The codes for these service begin with the letters "J" or "S." We used the wholesale price reported in the Red Book (RedBook 2000) for 10 services represented by J-codes in 1998. We used the rates proposed by Medicare as payment for fixed wing and helicopter ambulance services. For some types of medical supplies, we used the rates from the Home Health Prospective Payment System Demonstration.

3.3.9 Summary of the Sources of HERC Value Data

VA employs nearly 10,000 different CPT codes to characterize 100 million services and procedures provided annually. The provider component of the HERC value assigned to these visits exceeds \$3.5 billion dollars per year.

Table 3.2 characterizes VA outpatient care by the source of the HERC value. For the vast majority of care, the value was estimated from Medicare fee schedules and Ingenix gap codes. A number of visits were characterized by non-standard use of CPT codes; these accounted for nearly 10% of the services provided, however the portion of visits characterized by non-standard codes has been dropping. The next section and Table 3.3 provide information on how we handled the non-standard use of codes.

Table 3.2 VA Utilization by Source of HERC Provider Payment Data 1998-2000

Source of HERC Value	Number of CPT Codes Used by VA			Number of VA Outpatient Procedures		
	1998	1999	2000	1998	1999	2000
Medicare 2000 RBRVS or Ingenix GAP Codes	6,971	7,093	7,223	81,435,788	92,753,775	96,346,965
Medicare RBRVS or Ingenix, Other Years	96	67	56	1,198,200	57,612	5,352
Other Medicare Fee Schedules	30	27	24	6,881	7,997	7,031
Dental Charge Surveys	408	399	440	2,407,647	2,442,589	2,385,223
California Worker's Compensation System	9	9	7	1,017	1,121	674
Physician Charge Surveys	10	13	10	351,123	326,452	245,960
Red Book	10	15	64	7,534	9,777	25,946
Non-Standard Codes	1,566	1,600	1,579	12,070,916	10,483,467	8,229,765
Totals	9,100	9,223	9,403	97,479,106	106,082,790	107,246,916

Source of HERC Value	Total of HERC values		
	1998	1999	2000
Medicare 2000 RBRVS or Ingenix GAP Codes	2,877,189,230	3,132,502,384	3,178,538,771
Medicare RBRVS or Ingenix, Other Years	78,765,193	1,929,468	391,684
Other Medicare Fee Schedules	1,062,999	1,455,537	1,115,379
Dental Charge Surveys	183,100,923	189,147,708	199,833,497
California Worker's Compensation System	20,478	23,172	13,771
Physician Charge Surveys	16,568,738	147,970,993	12,201,892
Red Book	789,576	1,324,021	10,496,252
Non-Standard Codes	360,229,423	358,406,310	350,594,550
Total	3,517,726,560	3,832,759,593	3,753,185,796

3.4 Assignment of Payments to Services Characterized by Non-Standard Codes

Some of the CPT codes used by VA are not normally used to bill for ambulatory care. We made assumptions to estimate a hypothetical payment associated with each of these codes. The following sections describe each coding problem that we encountered, and the assumptions that we made in order to assign a payment.

3.4.1 Codes for Unlisted Services and Procedures

Each group of CPT codes includes a code for “unlisted service or procedure.” The designers of the CPT coding system developed these codes for flexibility, to allow coders to represent services that are not otherwise represented with a CPT code.

These codes are widely used by VA. The code for “unlisted hematology and coagulation procedures” was used 1.9 million times in 1998, making it one of the 10 most common procedures performed by VA. The CPT codes for unlisted miscellaneous pathology procedure, unlisted microbiology procedure, and unlisted chemistry procedure were also all used more than 500,000 times in 1998.

Neither Medicare, nor any other provider, assigns an RVU or payment to codes for unlisted procedures. We did not study the true nature of the services that VA represents with these codes. We assumed that these codes in fact represent services for which there is a more specific CPT code, with an associated RVU. In the absence of more precise information about the services represented by the unlisted codes, we applied the weighted average payment for “similar” procedures, as described below.

For example, we calculated the HERC value for “unlisted hematology and coagulation procedures” as the weighted mean payment of hematology and coagulation procedures actually performed by VA. The mean was weighted by the frequency of the similar listed codes. We calculated means for each year, using averages weighted by that year’s rate of utilization of the listed codes.

3.4.2 Obsolete Codes

VA uses CPT codes that have become obsolete and therefore did not have a payment associated with them in the year 2000 RBRVS or Ingenix data. These obsolete codes are generated each year when the CPT coding system is annually revised. New codes are added for new services. For instance, a single older code may be replaced by two or more new codes that provide greater specificity in describing the service. For example, a recent revision split the CPT codes for a quantitative laboratory test of amino acids (82130) into 3 distinct codes, according to the number of amino acids analyzed. Therefore, CPT code number 82130 became obsolete.

There are also cases where a new code number is assigned because of the revised definition of the service.

We examined the payment rates and RVUs assigned to new codes that replaced obsolete CPT codes. Most cases were in 3 categories:

- When an old code was replaced by a single code, we used the RVU of the new code.
- When a code was split into two or more codes with identical RVUs, we used this RVU.
- In some cases, the code was split into two or more new codes with different RVUs, but it was clear which new code applied to VA patients. For example, some of the vaccine codes were split into adult and pediatric doses; we used the RVU for the adult vaccine.

There were a few instances where an old code was replaced by more than one new code with different RVUs. In these situations there was no clear way to identify which code to use. We used the VA weighted average payment for these new codes.

3.4.3 Inpatient Procedures

Medicare has identified CPT codes for services that can only be done on an inpatient basis. Medicare does not reimburse providers for these services when they are provided in the ambulatory setting.

VA used 1,064 different CPT inpatient codes to characterize ambulatory care in 1998. Most of these codes were used infrequently, with the exception of 32 CPT inpatient “evaluation and management” (E&M) codes for care in non-acute settings such as skilled nursing facilities. These 32 codes were used to characterize more than 250,000 ambulatory encounters in 1998. In the absence of more precise information about the services provided, we assumed that they were actually ambulatory care evaluation and management visits. We assigned these visits a payment based on the RVUs associated with the corresponding outpatient E&M codes.

The vast majority of the remaining inpatient codes were used less than 100 times each; most were used to characterize fewer than 10 visits a year. In the absence of more precise information, these codes were assumed to be coding errors and these services were assigned the average VA payment per CPT code for that category of care.

3.4.5 Pediatric or Obstetric Services

There were a small number of codes for pediatric or obstetric services that were not routinely provided by VA. Pediatric and obstetric services were not covered benefits during this time period. These codes fell into two groups; pediatric codes that had an adult equivalent and other pediatric or obstetric codes. A recent change has made many obstetric services eligible benefits, and this will be reflected in the HERC outpatient cost estimates starting in FY 2002.

For pediatric codes that had a direct adult equivalent, HERC assumed that this represented a coding error, and the code was matched to its adult equivalent. For example, many of the vaccine codes have separate codes for pediatric and adult doses.

These errors occurred with some regularity; in 1998 there were 28 such codes that were used a total of 53,920 times.

Pediatric codes that did not have a direct adult equivalent were assumed to be coding errors, and assigned the average VA payment per CPT code for that category of care. All of the pediatric codes that were assigned that average payment were rarely used.

Obstetric codes were examined for their content and frequency of use. Any code that represented services the VA might provide or that were used more than 100 times was assumed to represent actual provision of services. The remainder were assumed to be coding errors, and assigned the average VA payment per CPT code for that category of care (see below). In fact, none of these codes were used more than 35 times in 1998, and all but one was used fewer than 10 times.

3.4.6 Payment Rate for Similar Services

Despite our effort to find payments from a variety of Medicare and private charge schedules and to make assumptions to assign payments to unlisted, obsolete, and certain inpatient codes, we still had a number of codes for which had not yet assigned a payment.

We reviewed all remaining CPT codes used by VA more than 100 times to see if we could identify another CPT code that represented the same, or a very similar service.

If there was another CPT code that represented the same, or a very similar service, we used the RVU for that code to estimate the HERC value. All of the CPT codes that we matched to another CPT code in this manner were reviewed by at least one member of our physician panel, and were only used if a physician agreed that the matching was appropriate. Details on how codes were matched are available from HERC. For example, there is no Medicare or Ingenix RVU for CPT code, 75556, which represents a type of cardiac magnetic resonance imaging. Similar services, assigned CPT codes 75552 through 75555, has been assigned RVUs. We chose the RVU for CPT code 75553, as it was the most similar to 75556, as both required a contract medium.

We then considered the codes that had not been assigned a HERC Value in any of the preceding steps. Each was reviewed to determine whether it was appropriate to assume that the service should be assigned the average HERC value. This review was done regardless of the number of times VA used the code, including codes used very infrequently. We considered whether these services were very expensive (e.g. custom, motorized wheelchair), or very inexpensive (e.g. a disposable syringe). When we deemed it inappropriate to assign an average payment to a service, we obtained a recommendation from a member of our clinician panel about what constituted a similar service, and used the associated RVU.

3.4.7 Average HERC value per CPT Code

The remaining codes were assigned the national average HERC value. We calculated a national average HERC value per CPT for each category of care. We calculated the mean HERC value by dividing the total payments in the category of care by

the number of procedures and services represented by CPT codes in that category. The category of care is based on the type of clinic (identified by clinic stop).

We assigned an average payment to CPT codes for inpatient services and pediatric or obstetric services, as described above. We also assigned the average HERC value to 54,545 occasions of service provided in 1998, represented by 124 different CPT codes. The code most frequently assigned the HERC average payment was the HCPCS code for “non covered item or service” (A9270), which was used 13,131 times. There were 6 additional codes used by VA more than 1,000 times in 1998 that we assigned the average HERC value.

Table 3.3 characterizes non-standard use of CPT codes. It gives the number of VA services represented by a non-standard code, the number of problem CPT codes, and the total provider payment that we assigned to these codes. This is provided so that the reader can understand the number of services affected by each of the assumptions used to calculate the HERC value. One row of this table was found with an approximation. As a consequence, the table does not precisely reconcile to table 3.2.⁶

⁶ Services that could not be assigned a value by any other method (including the residual of inpatient and pediatric/obstetric codes) were assigned the mean value of a service for that HERC category of care. The estimate of the total HERC value assigned to these services that appears in this table was based on the mean value assigned to the medicine clinic category of care.

Table 3.3 Non-Standard Usage of CPT Codes for Ambulatory Services, by Type of Coding Problem, 1998-2000

Coding Problem	Number of CPT Codes Used by VA			Number of VA Outpatient Procedures		
	1998	1999	2000	1998	1999	2000
"Unlisted" Procedures	138	139	145	6,368,583	5,626,211	4,907,750
Obsolete Codes	51	50	43	1,654,223	1,628,055	288,903
Inpatient Evaluation and Management Codes	32	32	32	250,753	229,786	162,299
Other Inpatient Codes	1,032	1,053	922	13,203	10,658	8,766
Pediatric Codes Changed to Adult Equivalent	28	32	32	53,920	56,526	75,539
Clinically Similar Code	87	100	144	1,249,899	1,298,418	1,315,495
Clinically Similar Payment	41	41	45	2,424,546	1,573,097	1,412,489
Pediatric or Obstetric Services Not Provided by VA	35	28	33	178	203	145
Remaining Services Assigned Average HERC Value	122	125	183	55,611	60,513	58,379
Total, All Non-Standard Codes	1,566	1,600	1,579	12,070,916	10,483,467	8,229,765

Coding Problem	Total of HERC value		
	1998	1999	2000
"Unlisted" Procedures	152,956,795	146,972,119	141,539,668
Obsolete Codes	25,773,055	17,780,222	11,733,110
Inpatient Evaluation and Management Codes	7,674,645	7,504,087	6,043,538
Pediatric Codes Changed to Adult Equivalent	1,073,983	1,125,456	757,042
Clinically Similar Code	17,186,893	19,206,881	24,502,288
Clinically Similar Payment	149,473,438	159,476,679	160,019,328
Remaining Services Assigned Average HERC Value *	6,090,614	6,340,866	5,999,576
Total, All Non-Standard Codes	360,231,421	358,408,309	350,596,550

* The values in this row are an approximation, so total does not exactly reconcile to table 3.2 (see text)

Chapter 4. HERC Facility Payment

Medicare reimburses health care facilities for certain types of ambulatory care. This payment is in addition to the provider payment. The types of facilities eligible for Medicare reimbursement include hospital-based clinics, emergency rooms, free standing ambulatory surgical centers, Federally-qualified health centers, skilled nursing facilities, rural health clinics, comprehensive outpatient rehabilitation facilities, home health agencies, and hospices.

Facility reimbursements are a significant expense to Medicare. When care is provided in an ambulatory care facility, Medicare spends about as much on facility payments as it does on physician services. For the HERC value estimates, the total HERC provider payments and the total HERC facility payments were about equal to each other.

We used a newly adopted Medicare payment method to determine the HERC facility payment. We adapted the Medicare rules to estimate facility payments for services provided by VA that are not covered by Medicare.

4.1 VA Facilities and the Medicare Definition of Facility

All VA acute care hospitals meet the Medicare definition of a “health care facility”. If VA could bill Medicare, all outpatient care provided at these medical centers would qualify for facility reimbursement. Some VA visits occur in satellite outpatient clinics. These settings may not meet the Medicare definition of a facility.

VA databases may not reliably identify the site where care is provided. The site is characterized using a 5-digit code (STA5N); this variable distinguishes hospital-based clinics from satellite outpatient centers. Unfortunately, visits to satellite clinics that involve laboratory tests run at the parent hospital have sometimes been assigned the hospital location code.

Due to this data problem, and the difficulty in determining which of hundreds of VA sites meets the Medicare definition of facility, we created the HERC Outpatient Cost File with the assumption that all VA outpatient care would be eligible for Medicare facility payments.

The result is that the HERC value for care provided at satellite clinics may be overstated. This is because Medicare reimbursement is greater when care is provided at a facility.⁷

This overstatement of payments applies to care, such as routine visits that can be provided in either a facility or an office-based practice. The HERC value is an accurate

⁷ When care is provided at a facility, the sum of facility and provider reimbursement is greater than the reimbursement to an office-based provider who provides the same service.

statement of Medicare reimbursement for outpatient care that can be provided only in a facility, such as the more complex types of outpatient surgery.

4.2 Identifying Medicare Facility Reimbursement

Medicare adopted a new method of paying ambulatory care facilities in August 2000. This method assigns CPT codes to Ambulatory Payment Classifications (APC). A facility reimbursement was assigned to each APC.

We used the new payment method to calculate facility payment rates. For services that are not covered by Medicare, we extended the Medicare method to estimate the appropriate facility payment.

In the past, ambulatory care facilities submitted itemized bills to Medicare. There was no published data on the average bill, or the average Medicare reimbursement for different outpatient services. The new Medicare payment method fills this gap. Medicare studied past payments to determine how much it should pay facilities according to the number and type of services provided.

4.2.1 Care Excluded from APC Reimbursements

Medicare assigned CPT codes representing similar services with similar facility costs to Ambulatory Payment Classification (APC) groups. Medicare found the average facility reimbursement for each APC from historical payment data.

Under the Medicare rules, the following types of care is not eligible for facility payments:

- Procedures where the facility reimbursement comes from the APC payment for another CPT code. For example, facilities do not receive an APC payment for anesthesia CPT codes, since the payment is included in the APC associated with the procedure.
- Services in which the facility payment is included with provider reimbursement. Examples of this include laboratory tests, dialysis, and medical supplies.
- Procedures that can only be provided in an inpatient setting.

4.2.2 Implementation of the APC Method to VA Data

HERC followed Medicare rules in estimating facility payments. We extended Medicare rules to estimate facility payments for services not covered by Medicare.

Our primary sources of payment rates were the rules from 2000, the first year in which Medicare used the APC to calculate facility payments. We also used the new APC categories created for 2001. We adjusted APC payments for the year that the service was provided. We used RBRVS conversion factors as our index. We multiplied the APC

payment by a ratio. This ratio was the conversion factor for the year of the visit, divided by the conversion factor for the year of the APC payment.

When a visit involves several CPT codes, the facility receives an APC payment for each code. In the case of multiple procedures, the APC payments for many surgical procedures are reduced by 50%. However, the APC payment for a surgical procedure is not reduced if it is the largest APC payment for the visit. From the 1998 data there were 1,317 CPT codes that were used 44,495,645 times that had APCs that were not subject to discounting. For APCs that were subject to discounting the VA used 2,807 CPT codes 1,799,884 times. Table 4.1 has the data for each source of payment data for 1998-2000.

4.2.3 Other Codes without Facility Payment

VA used many codes that are not covered by Medicare and have not been assigned an APC. We first considered whether a facility payment was appropriate. We applied the Medicare rule, and excluded laboratory tests, dialysis, most dental services, and medical supplies from further consideration. We excluded procedures like anesthesia, where the facility reimbursement comes from the APC payment for another CPT code. There were 3,326 CPT codes representing 31,369,907 encounters or procedures used by VA in 1998 for services where APC payments were not allowed.

Following the methods we used for provider payments, we examined the CPT codes that did not have a Medicare assigned APC to see if there was a similar procedure that had an APC payment. For example, Medicare reimburses facilities for some types of imaging tests, but not others. When this occurred, we assigned the APC payment for the similar service, and had a clinician review them. A complete list of these codes is available from HERC. In 1998 assumptions were made in the assigning of APCs for 88 CPT codes that were used a total of 313,189 times.

4.2.4 Gap Codes—Facility Payments for Services not Covered by Medicare

We considered what facility value was appropriate for the remaining CPT codes that we believed should be assigned a facility payment, but were not assigned an APC group by Medicare.

We first considered gap code services that included in an RVU for practice expense, and could be provided in an office-based setting. We assumed that an APC payment was appropriate. We calculated a facility value based on the practice expense RVU. We assumed that the facility payment should be proportionate to the provider practice expense payment.

We adjusted the provider practice expense to reflect the higher cost of facilities. We estimated the amount of this adjustment by studying Medicare covered services that had both a facility payment based on APC group, and a provider practice expense for office-based providers. The median ratio of APC facility payment to provider practice expense payment was 2.22. We applied this ratio to estimate facility payments for gap-code code services provided in office-based settings. In 1998 this method was used for 171 CPT codes, representing 15,591,001 services.

4.2.5 1997 Medicare Facility Payments

We also examined the 1997 Medicare RBRVS to look for practice expense payments for CPT codes not listed in the 2000 RBRVS. We used the same method to calculate a facility payment from the practice expense RVU (see previous section). This method yielded a facility payment for 46 CPT codes that were used 88,419 times in 1998. The number of CPT codes and frequency of use for this data source decreased markedly in 1999 and 2000.

4.2.6 Codes for Unlisted Services and Procedures

Medicare did not assign an APC payment to some CPT codes for unlisted procedures. We assumed that these codes represented services for which there was a more specific CPT code, with an associated APC. For these missing codes, we applied the weighted average facility payment for similar procedures. The weights were the frequency of VA use of each of the similar procedures. This was applied to 7 codes that were used 301,907 times in FY1998. This method was used much less often for facility payment than for provider payment because Medicare assigned APCs to many of the Unlisted Procedures codes.

4.2.7 Obsolete Codes

We examined the APC values for the new codes that replaced obsolete CPT codes. When an obsolete code was replaced by two or more codes with identical APC payments, we used this payment. When it was clear which new code should be used, we used the APC payment for that code. For example, the CPT codes for Laparoscopy were reassigned from a single block of CPT codes (56300-56323) to individual CPT codes that corresponded to each specific laparoscopic procedure. These new codes were grouped with the specific organ systems for each procedure, instead of as a single block for laparoscopic procedures.

4.2.8 Inpatient Codes

As noted in Chapter 3, there were 32 different inpatient Evaluation and Management (E&M) CPT codes assigned to VA outpatient visits. We used the facility payment of the APC of the corresponding outpatient E&M codes.

4.2.9 Average HERC Facility Payment per CPT Code

Other codes that were assigned the average HERC provider payment were simply assigned the national average HERC facility payment for that category of care. For 1998 these were the 1,032 inpatient CPT codes, the 35 pediatric or obstetric CPT codes for services not provided by VA, and the 122 CPT codes that we could not match to any payment data. We calculated a national average HERC facility payment per CPT for each category of care. We calculated the mean HERC facility payment by dividing the total facility payments in the category of care by the number of procedures and services represented by CPT codes in that category. The category of care is based on the type of clinic (clinic stop—see chapter 2).

Table 4.1 indicates the source of information used to calculate the facility component of the HERC value. It gives the number of CPT codes involved, and the number of procedures. This table is offered to provide the reader with information about the relative importance of the various assumptions made in the preceding text. The table does not include information on the dollar amount of the facility component HERC values. The complexity of the task is daunting, because the APC payment for a given CPT code varies according to the other codes that were assigned in the same visit. This was taken into account when creating the HERC outpatient cost datasets.

Table 4.1 Facility Component of HERC Value by Source

Source of HERC value	Number of CPT Codes Used by VA			Number of VA Outpatient Procedures		
	1998	1999	2000	1998	1999	2000
Medicare 2000 APC Payments Subject to Discounting	2,807	2,809	2,836	1,799,884	1,966,977	1,982,048
Medicare 2000 APC Payment	1,317	1,386	1,424	44,495,227	44,999,645	43,699,342
Codes With No APC Payment	3,326	3,395	3,572	31,369,907	40,345,912	44,339,498
Matched to Similar CPT Code	88	80	107	313,189	293,736	387,898
Ingenix GAP Codes	171	170	171	15,591,001	15,507,231	14,591,338
Medicare 1997	46	20	18	88,419	10,255	2,771
"Unlisted" Procedures	7	7	7	301,907	339,521	437,600
Obsolete Codes	117	118	101	3,200,127	2,318,353	1,576,832
Inpatient E&M codes	32	32	32	250,753	229,786	162,299
Remaining Services Assigned Average Facility Component of HERC Value	1,189	1,206	1,138	68,692	71,374	67,290
Total	9,100	9,223	9,406	97,479,106	106,082,790	107,246,916

Chapter 5. User's Guide to the HERC Outpatient Cost Files

5.1 Overview of the HERC Outpatient Cost Files

We estimated the hypothetical third-party reimbursement of every record in the VA outpatient events file. We call this the “HERC value.” We estimated this payment based on CPT codes as described in chapters three and four.

For each outpatient visit, we also determined the “National Cost Estimate,” and a “Local Cost Estimate”. We created these cost estimates by adjusting the HERC value to reflect VA’s actual expenditures for ambulatory care, as described below.

5.1.1 Limitations of HERC Outpatient Cost Estimates

It does not contain pharmacy utilization, payments, or cost. There is currently (October 2001) no easily accessible national database of VA pharmacy utilization, so we did not estimate pharmacy payments or costs.

It contains incomplete data on prosthetics services. We believe that prosthetics services are underreported in the VA outpatient database. We only estimated the HERC value for visits to VA prosthetics clinics; our national and local estimates of prosthetic costs are simply a restatement of those payments.

HERC values and cost estimates do not reflect VA practice patterns or productivity. The HERC values are based on Medicare and other reimbursement schedules. The HERC cost estimates rescale these payments to reflect costs reported in the VA Cost Distribution Report. These estimates do not reflect the effect of VA practice patterns or staff productivity. Analysts who wish to determine the effect of practice patterns or provider productivity on resource use will need to undertake staff activity analysis, a method sometimes referred to as micro-costing.

5.2 Applying for Access to Use the HERC Outpatient Files

To gain access the HERC Outpatient Cost Files, you must have a VA account to use the Austin Automation Center. You must register with HERC to use HERC average cost data and you must also submit a request for permission to access the HERC data to your AAC “Point of Contact (POC)”. For more information on registering to use HERC data, visit the web site at www.herc.research.med.va.gov/nondisclosure_form.htm. To locate your POC, call the AAC Help Desk at (512) 326-6780

Submit Time Sharing Access Request (form VA-9957) to request access to the HERC Outpatient Cost Files. Be sure to specify the “functional task code” for the HERC files: **110AC03**.

5.3 Names of the HERC Outpatient Cost Files

The HERC Outpatient Average Cost Files are stored at the Austin Automation Center (AAC). The MVS/TSO names of each file, and the number of records it contains, are as follows:

Table 5.1 HERC Outpatient Average Cost Files, 1998-2000

Year	File Name	Number of records
FY1998	RMTPRD.HERC.SAS.OPCSE98	57,630,056
FY1999	RMTPRD.HERC.SAS.OPCSE99	61,640,982
FY2000	RMTPRD.HERC.SAS.OPCSE00	63,637,301

5.4 Variables in the HERC Outpatient Cost Files

The table below lists the names of variables in the HERC Outpatient Cost Files, and briefly describes them.

Table 5.2 Variables in the HERC Outpatient Cost Files

Variable	Label	Source
SCRSSN	Scrambled Social Security Number	Outpatient Events (SE) file
STA5A	Medical Center (3-digit station code with 2-digit location suffix)	
VIZDAY	Date of visit	
CL	3-digit code indicating the type of clinic visited	
LINK2SE	The observation number (_N_) of this visit in the outpatient events file (SE)	Created by HERC
CAT	Category of outpatient service	
NCHRG	HERC value for this visit	
COSTN	National VA average cost for this visit	
COSTL	Local VA average cost for this visit	
RVUCOST	Provider component of HERC value for this visit	
APCCOST	Facility component of HERC value for this visit	
IMP	Number of CPT codes in this visit assigned the mean HERC value per CPT code for this category of care	

5.4.1 Variables in Common with the Outpatient Events (SE) File

The HERC Outpatient Cost Files have four variables in common with the VA outpatient events file. These variables identify the visit. They include the patient’s scrambled social security number (SCRSSN), the site where care was provided (STA5N),

the date of service (VIZDAY), and the type of clinic visited as identified by the 3-digit clinic stop code (CL).

5.4.2 Link Variable

The link variable (LINK2SE) is the observation number of the visit in the outpatient events file. This variable is needed to link the HERC Outpatient Cost File with the Outpatient Events file. The variables SCRSSN, STA5N, VIZDAY, and CL do not uniquely define a particular outpatient visit, as a single patient may visit a particular clinic stop at a given site two or more times on a given day. The use of the link variable to merge the two data sets is described below.

5.4.3 Category of Care

Each visit was assigned to a “Category of Care” (CAT) based on the location where the service was provided. VA identifies the location of care using a 3-digit code, the DSS identifier (formerly called the clinic stop). We defined 13 categories of care, as described in Chapter 1.

Table 5.3 HERC Outpatient Categories of Care

Category Number	Category Name
21	Outpatient Medicine
22	Outpatient Dialysis
23	Outpatient Ancillary Services
24	Outpatient Rehabilitation
25	Outpatient Diagnostics Services
26	Outpatient Pharmacy
27	Outpatient Prosthetics
28	Outpatient Surgery
29	Outpatient Psychiatry
30	Outpatient Substance Abuse Treatment
31	Outpatient Dental
32	Outpatient Adult Day
33	Home Care

Category 26, outpatient pharmacy, is never used. Although the CDR reports the cost of pharmacy, pharmacy utilization does not appear in VA outpatient databases. Analysts who need estimates of pharmacy cost are encouraged to use the VA Pharmacy Benefits Management database, or the pharmacy files in the national financial extracts from the VA Decision Support System.

It also appears that utilization of VA prosthetics care is under-represented in the VA outpatient database. We have treated prosthetics differently when we estimated national and local costs. Analysts who need accurate estimates of prosthetics care should turn to the VA National Prosthetics Database.

5.4.4 HERC value

The “HERC value” (NCHARG) is based on the CPT codes assigned to the visit. It is the sum of the provider and facility payment, as described in Chapters three and four. Wherever possible, we used the Medicare payment method at the national average reimbursement rate. For services that are not reimbursed by Medicare, we used one of several other sources. These include the “gap code RVUs” created by Ingenix Corp, data from surveys of physicians and dentists, and other sources. For a limited number of CPT codes, we used the mean payment for similar codes or the mean payment per CPT codes for that category of care.

The HERC value is a useful estimate of the cost of care from the perspective of the average health care payer. It might be used to understand the implications of a cost-effectiveness result for the entire U.S. health care system. However, the HERC value should not be used to understand the cost of particular site, or to determine the effect of an innovation at a particular site.

5.4.5 National Cost Estimate

The “National Cost Estimate” (COSTN) was created to reflect VA national expenditures in each category of care. It is the HERC value multiplied by a factor specific to the category of care for the visit. This factor was constructed so that the sum of the “National Cost Estimates” for visits in each category of care is equal to the actual VA expenditures for that category, as reported in the Cost Distribution Report (CDR).

To find the “National Cost Estimate” the HERC value was multiplied by a ratio of costs to payments. A separate ratio was found for each category of care. The ratio was found by dividing the national total expenditures reported in the CDR in that category by the national total of HERC values for that category. We used ratios for 11 of the 13 categories; no ratio was used for pharmacy or prosthetics.

We did not use the ratio of cost to payments for the prosthetics category of care; instead we simply substituted the HERC value (that is, we assumed a ratio of 1). We found that the HERC values generated by visits in the prosthetics category represented about 30% of VA expenditures for prosthetics. We believe that this is because the prosthetics workload is not fully incorporated into VA outpatient files. Analysts who wish to have an accurate assessment of prosthetics care should turn to the VA National Prosthetics Database.

5.4.6 Local Cost Estimate

The “Local Cost Estimate” (COSTL) was created to reflect VA expenditures for ambulatory care at a particular medical center. It is a further refinement of the national cost estimate. We multiplied the “National Cost Estimate” by a factor for that particular medical center. This factor was calculated so that the sum of the “Local Cost Estimates” for visits to a particular medical center was equal to the actual VA expenditures for ambulatory care of that medical center, as reported in the CDR. Because we used the “National Cost Estimates,” as our basis, the sum of the “Local Cost Estimates” for visits

in each category of care will be approximately equal to the national total expenditures for each category.

The factor used to find the local cost estimate was a medical center specific ratio of costs to national cost estimates. For each medical center, we found the sum of the “National Cost Estimates”. This was divided by the sum of the ambulatory care expenditures for that medical center as reported in the CDR. Prosthetics and pharmacy categories of care were excluded when these ratios were calculated. The “Local Cost Estimate” for prosthetics is simply the “HERC value.”

The local cost estimates were created with the assumption that the parent medical center and satellite clinics incur identical costs for the same type of care. Local estimates reflect expenditures and utilization reported with the 3-digit facility identifier (STA3N). VA also identifies facilities with a 5-digit facility identifier (STA5N). The quality of information incorporated in this more specific location variable is uncertain, so we decided not to use it.

5.4.7 Provider component of HERC value

The provider component of HERC value (RVUCOST) is also provided.

5.4.8 Facility component of HERC value

The facility component of the HERC value (APCCOST) is also given. Note that the provider and facility component of the HERC value equal the total HERC value.

5.4.9 Count of Codes Assigned Average Payment

The variable IMP contains the number of CPT codes where HERC value was estimated as the mean payment per CPT code for this category of care.

5.5 Linking the HERC Outpatient Cost Files to the Outpatient Events File

We estimated the cost of each visit recorded in the VA outpatient National Patient Care Database events file (also known as the SE file). The HERC cost estimates are in a file with five variables that identify the visit. The HERC file does not duplicate any of the other fields that are found in the SE file. Analysts who wish to obtain more information about the visit (such as diagnosis or procedures) or the patient (such as demographic variables) must obtain this information from the SE file. This requires merging of the HERC outpatient file with the SE file.

The SE file has four variables that characterize each visit: the patient’s scrambled social security number (SCRSSN), the site where care was provided (STA5N), the date of service (VIZDAY), and the location of care, or clinic stop (CL). These four variables do not uniquely define a particular outpatient visit, however. This is because a single patient may visit a particular clinic stop at a particular site two or more times on a given day. This is not an infrequent occurrence; about 34% of the records in the SE file share values for these four variables with another record. Another variable is needed to uniquely define each visit.

We used the observation number to define visits. This variable is called “LINK2SE” in the HERC outpatient file. The variable does not exist in the SE file, but it is easy to create. SAS keeps a system variable, named `_N_`, with the number of the observation. Analysts should create a new variable in the SE file called LINK2SE, and assign it the value of `_N_`. We have provided a sample SAS program showing how this is done. This program selects a small number of records from the SE file, and links them to the HERC outpatient cost file.

Note that it is not necessary to sort either the HERC file or the SE file if they are merged using the BY statement and with the visit defining variables in the order indicated—both data sets are already in this sort order. It is possible to link the SE file to the HERC file using the LINK2SE variable alone, however we do not recommend doing this. Merging using all five stay-defining variables ensures that the analysts have assigned the HERC cost estimates to the appropriate SE stays. A typical example of SAS codes that selected a study sample from the SE98 file and merged with the HERC Outpatient average cost file (OPC98F) is appended below for your reference.

```
*****
The following SAS code has two functions:
1. Select a study sample that contains visits occurred in the Station 640 with the first three digits of the
primary diagnosis equal to 480 (Viral pneumonia) from the SE98 file. Define LINK2SE, the variable
needed to link the file with the HERC outpatient cost file.
2. Extract costs for the selected records from the HERC Outpatient average cost file (OPC98F).
*****;

*** SELECT A SE SAMPLE ***;
DATA OUT.SE_SMPL;
SET IN1.SE98;
IF STA3N=640 AND DXLSF=: '480';
LINK2SE=_N_;

*** EXTRACT COSTS ***;
DATA OUT.SE_COST;
MERGE IN2.OPC98F OUT.SE_SMPL(IN=INSE);
BY SCRSSN STA5A VIZDAY CL LINK2SE;
IF INSE;

***** END OF THE PROGRAM *****;
```

Note: The four visit defining variables (SCRSSN, STA5A, VIZDAY, CL) as well as LINK2SE should be included in the BY statement to ensure that the merge is accurate.

Chapter 6. Data Validation

We validated the HERC ambulatory care file to show that:

- Every visit in the SE file was represented in the HERC outpatient cost file.
- Every CPT code in the SE file was assigned a payment in the HERC outpatient cost file.
- The sum of the national cost in each category of care in the HERC outpatient cost file equals the sum of costs reported in the CDR for that category of care.
- The sum of the local cost at each medical center in the HERC outpatient cost file equals the total cost reported in the CDR for that medical center.

Table 6.1 Reconciliation of HERC Outpatient Cost and NPCD SE file FY98-FY00

FY	Number of Records in SE file	Number of Records in HERC file w/Costs	Number of invalid records in HERC file
1998	57630056	57630056	0
1999	61642904	61640982	1922
2000	63644504	63639920	4584

Table 6.1 demonstrates that the HERC files have the same number of records that appear in the outpatient events files. In 1999 and 2000, the outpatient events files included records for clinic stops that represent inpatient or contract services provided non-VA providers. These visits should not be in the file of VA outpatient utilization; we have elected to deem them “invalid,” and have not assigned them a HERC value or cost.

Table 6.2 Reconciliation of National Costs between HERC Outpatient costs and the Cost Distribution Report (CDR) by cost Category FY 98

FY 98	CATEGORY	CDRCOST	HERC COST	DIFFERENCE
21	OP MEDICINE	1,859,610,997	1,859,610,867	130
22	OP DIALYSIS	91,943,445	91,943,510	-64
23	OP ANCILLARY	176,748,122	176,748,137	-14
24	OP REHAB	218,229,476	218,229,624	-148
25	OP DIAGNOST	684,980,236	684,980,404	-167
28	OP SURGERY	628,371,978	628,372,169	-192
29	OP PSYCH	506,355,062	506,355,006	56
30	OP SUBS ABUS	179,732,106	179,732,058	48
31	OP DENTAL	176,258,158	176,258,157	1
32	OP ADULT DAY	12,097,879	12,097,886	-8
33	HOME CARE	123,635,515	123,635,505	10

Table 6.3 Reconciliation of National Costs between HERC Outpatient costs and the Cost Distribution Report (CDR) by cost Category FY 99

FY 99		CATEGORY	CDRCOST	HERC COST	DIFFERENCE
21	OP	MEDICINE	2,046,463,537	2,046,462,921	615
22	OP	DIALYSIS	89,264,146	89,264,152	-6
23	OP	ANCILLARY	171,804,287	171,804,239	48
24	OP	REHAB	230,963,672	230,963,830	-159
25	OP	DIAGNOST	701,234,250	701,234,415	-165
28	OP	SURGERY	698,783,132	698,782,685	447
29	OP	PSYCH	551,176,793	551,177,109	-316
30	OP	SUBS ABUS	180,741,688	180,741,665	23
31	OP	DENTAL	179,924,614	179,924,548	66
32	OP	ADULT DAY	11,126,160	11,126,165	-5
33	HOME	ME CARE	135,060,504	135,060,517	-13

Table 6.4 Reconciliation of National Costs between HERC Outpatient costs and the Cost Distribution Report (CDR) by cost Category FY 00

FY 00		CATEGORY	CDRCOST	HERC COST	DIFFERENCE
21	OP	MEDICINE	2,310,789,310	2,310,788,617	693
22	OP	DIALYSIS	97,494,620	97,494,612	8
23	OP	ANCILLARY	195,494,112	195,494,098	13
24	OP	REHAB	264,348,590	264,348,678	-88
25	OP	DIAGNOST	759,051,648	759,051,354	294
28	OP	SURGERY	758,737,263	758,737,655	-392
29	OP	PSYCH	599,024,008	599,023,894	114
30	OP	SUBS ABUS	182,696,246	182,696,196	50
31	OP	DENTAL	186,487,626	186,487,540	86
32	OP	ADULT DAY	10,224,767	10,224,765	2
33	HOME	ME CARE	173,086,964	173,086,966	-2

Table 6.5 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) files by Station (STA3N) FY 98

FY 98 STA3N	CDR COST	HERC COST	DIFFERENCE
358	2,375,146	2,375,144	2
402	22,665,814	22,665,822	-8
405	16,672,453	16,672,458	-5
436	15,157,717	15,157,718	-1
437	11,527,366	11,527,367	0
438	13,505,432	13,505,429	3
442	9,037,188	9,037,190	-2
452	17,702,816	17,702,821	-4
459	21,960,514	21,960,513	1
460	17,455,658	17,455,653	5
463	15,236,201	15,236,200	1
500	36,603,647	36,603,653	-6
501	51,771,322	51,771,315	8
502	17,673,176	17,673,171	5
503	10,716,313	10,716,312	1
504	21,040,557	21,040,559	-1
506	31,637,848	31,637,838	10
508	45,094,467	45,094,461	5
509	40,041,756	40,041,758	-2
512	70,463,626	70,463,633	-7
514	6,609,075	6,609,075	0
515	25,090,072	25,090,066	6
516	57,210,607	57,210,601	6
517	10,818,977	10,818,977	0
518	18,260,802	18,260,804	-2
519	10,903,030	10,903,027	3
520	36,711,910	36,711,926	-16
521	39,946,079	39,946,080	-2
523	53,066,060	53,066,052	9
525	30,467,750	30,467,758	-8
526	43,675,178	43,675,183	-5
527	55,114,101	55,114,111	-10
528	44,772,100	44,772,105	-5
529	9,818,670	9,818,672	-2
531	18,733,470	18,733,469	1
532	7,574,287	7,574,289	-2
534	31,724,910	31,724,907	3
537	79,110,908	79,110,920	-11
538	18,515,055	18,515,059	-4
539	26,027,317	26,027,321	-4
540	15,918,027	15,918,023	3
541	67,134,789	67,134,781	7
542	10,689,101	10,689,106	-5
543	22,853,742	22,853,735	6
544	29,845,198	29,845,195	3
546	83,853,330	83,853,324	6
548	53,525,944	53,525,953	-9
549	69,103,018	69,103,015	3

Table 6.5 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) files by Station (STA3N) FY 98

STA3N	CDR COST	HERC COST	DIFFERENCE
550	20,551,506	20,551,512	-6
552	34,248,479	34,248,473	7
553	53,042,565	53,042,559	5
554	35,085,801	35,085,806	-6
555	27,926,930	27,926,937	-7
556	33,402,191	33,402,192	-2
557	14,497,768	14,497,770	-2
558	30,439,990	30,439,989	1
561	67,943,956	67,943,938	17
562	15,813,226	15,813,224	2
564	16,840,094	16,840,094	0
565	16,771,929	16,771,928	1
567	8,722,205	8,722,208	-4
568	19,016,592	19,016,589	3
570	18,236,951	18,236,949	2
573	45,436,667	45,436,657	10
575	7,535,208	7,535,206	2
578	47,413,821	47,413,835	-14
580	67,078,836	67,078,844	-8
581	21,188,434	21,188,437	-3
583	43,894,405	43,894,392	13
584	29,423,923	29,423,928	-4
585	11,807,565	11,807,563	2
586	34,355,037	34,355,034	3
589	25,485,346	25,485,344	2
590	25,926,380	25,926,383	-3
593	31,453,905	31,453,910	-5
594	15,000,902	15,000,903	-1
595	20,035,349	20,035,353	-5
596	29,928,905	29,928,910	-5
597	18,431,474	18,431,475	-1
598	73,276,673	73,276,675	-2
600	60,429,121	60,429,127	-6
603	28,144,449	28,144,463	-15
605	39,914,416	39,914,425	-8
607	19,381,390	19,381,397	-6
608	13,803,663	13,803,658	4
609	20,834,760	20,834,763	-3
610	14,471,449	14,471,446	3
612	54,797,114	54,797,113	1
613	21,207,389	21,207,393	-4
614	35,947,080	35,947,084	-4
618	62,421,752	62,421,739	13
619	33,589,295	33,589,300	-6
620	26,052,352	26,052,359	-8
621	31,028,887	31,028,887	0
622	20,381,835	20,381,835	-1
623	20,384,636	20,384,634	2
626	36,612,424	36,612,423	1

Table 6.5 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) files by Station (STA3N) FY 98

STA3N	CDR COST	HERC COST	DIFFERENCE
629	45,612,610	45,612,616	-6
630	58,032,112	58,032,114	-2
631	15,179,394	15,179,393	1
632	31,993,670	31,993,667	3
635	38,098,673	38,098,662	11
636	23,885,035	23,885,038	-3
637	16,290,105	16,290,108	-2
640	68,503,616	68,503,633	-17
642	46,240,776	46,240,774	2
644	49,981,115	49,981,121	-6
646	41,800,606	41,800,604	2
647	8,659,518	8,659,520	-2
648	48,812,356	48,812,328	28
649	12,825,615	12,825,613	2
650	25,293,816	25,293,821	-4
652	37,128,388	37,128,379	9
653	15,006,391	15,006,390	2
654	19,320,246	19,320,249	-3
655	11,550,539	11,550,540	-2
656	16,550,614	16,550,609	5
657	45,946,969	45,946,977	-9
658	29,029,445	29,029,449	-5
659	19,407,832	19,407,828	4
660	33,215,847	33,215,839	8
662	48,128,486	48,128,480	6
663	60,597,207	60,597,190	17
664	49,893,516	49,893,520	-4
665	70,266,968	70,266,959	8
666	5,473,117	5,473,118	-1
667	27,064,589	27,064,592	-3
668	13,661,538	13,661,541	-3
670	22,973,754	22,973,749	5
671	55,862,443	55,862,467	-24
672	57,447,318	57,447,327	-8
673	70,921,220	70,921,214	6
674	55,240,275	55,240,297	-22
676	11,322,531	11,322,527	4
677	39,667,450	39,667,445	6
678	32,536,490	32,536,488	3
679	14,828,468	14,828,468	0
687	6,039,536	6,039,537	-1
688	44,261,455	44,261,467	-12
689	78,394,871	78,394,877	-6
691	67,684,831	67,684,805	25
692	2,871,987	2,871,987	0
693	21,747,227	21,747,220	8
695	49,332,054	49,332,058	-4
756	13,273,406	13,273,403	3
757	15,079,401	15,079,400	1

Table 6.6 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) files by Station (STA3N) FY 99

FY 99 STA3N	CDRCOST	HERC COST	DIFFERENCE
358	2,446,458	2,446,458	0
402	25,045,919	25,045,917	2
405	18,186,277	18,186,274	3
436	14,319,913	14,319,910	2
437	11,932,406	11,932,409	-3
438	15,742,673	15,742,672	1
442	10,791,416	10,791,416	0
452	20,580,359	20,580,362	-3
459	23,149,383	23,149,383	0
460	17,323,832	17,323,836	-4
463	17,095,497	17,095,496	1
500	41,750,059	41,750,058	1
501	54,165,963	54,165,964	-1
502	17,990,002	17,990,007	-5
503	9,891,984	9,891,986	-2
504	22,422,095	22,422,094	1
506	38,227,438	38,227,438	0
508	51,774,580	51,774,586	-6
509	44,419,804	44,419,801	3
512	64,763,522	64,763,514	7
514	8,537,935	8,537,934	1
515	23,920,062	23,920,059	2
516	60,036,839	60,036,838	1
517	10,889,453	10,889,453	0
518	15,610,367	15,610,358	9
519	11,470,412	11,470,413	-1
520	34,826,373	34,826,371	2
521	42,741,358	42,741,355	3
523	81,662,428	81,662,428	0
526	43,927,255	43,927,256	-1
527	54,971,188	54,971,178	10
528	43,905,478	43,905,483	-5
529	13,028,001	13,028,003	-2
531	15,597,835	15,597,836	-1
532	16,212,587	16,212,587	0
534	36,634,394	36,634,402	-9
537	80,392,271	80,392,271	0
538	21,071,748	21,071,745	2
539	29,053,194	29,053,191	3
540	19,083,983	19,083,985	-2
541	69,137,052	69,137,051	0
542	13,269,331	13,269,329	2
543	26,441,666	26,441,668	-2
544	32,565,452	32,565,461	-8
546	79,832,180	79,832,191	-11
548	51,169,843	51,169,840	3
549	79,645,972	79,645,974	-3
550	25,503,931	25,503,928	3

Table 6.6 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) files by Station (STA3N) FY 99

STA3N	CDRCOST	HERC COST	DIFFERENCE
552	35,556,110	35,556,107	2
553	62,486,627	62,486,622	6
554	32,887,279	32,887,278	1
555	26,480,090	26,480,086	5
556	33,575,527	33,575,530	-3
557	15,174,935	15,174,937	-2
558	30,025,105	30,025,117	-11
561	70,214,186	70,214,181	5
562	14,079,247	14,079,249	-3
564	18,495,701	18,495,703	-2
565	17,801,644	17,801,646	-2
567	9,815,648	9,815,648	0
568	26,283,400	26,283,394	6
570	20,657,761	20,657,761	0
573	73,117,837	73,117,811	26
575	8,834,447	8,834,447	0
578	50,236,746	50,236,749	-3
580	77,570,871	77,570,883	-12
581	25,990,052	25,990,052	0
583	54,759,813	54,759,809	4
584	26,416,953	26,416,958	-6
585	13,856,842	13,856,840	2
586	38,584,071	38,584,071	1
589	32,823,175	32,823,171	4
590	26,023,337	26,023,343	-6
593	39,767,268	39,767,264	4
595	21,259,573	21,259,574	-1
596	31,142,021	31,142,013	9
597	18,440,721	18,440,719	2
598	73,406,400	73,406,402	-2
600	60,941,946	60,941,948	-1
603	34,797,781	34,797,791	-10
605	44,111,029	44,111,027	1
607	20,787,176	20,787,182	-6
608	15,196,017	15,196,016	1
609	21,602,242	21,602,247	-5
610	18,501,986	18,501,990	-4
612	62,732,337	62,732,327	10
613	28,812,856	28,812,858	-3
614	41,591,955	41,591,941	14
618	64,322,107	64,322,110	-3
619	32,598,872	32,598,876	-4
620	30,229,271	30,229,274	-3
621	35,414,918	35,414,911	7
622	21,417,681	21,417,690	-9
623	23,582,873	23,582,872	1
626	38,304,844	38,304,851	-7
629	52,449,997	52,449,987	10
630	51,269,787	51,269,784	4

Table 6.6 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) files by Station (STA3N) FY 99

STA3N	CDRCOST	HERC COST	DIFFERENCE
631	14,483,881	14,483,882	-1
632	34,677,998	34,678,004	-6
635	39,637,424	39,637,419	5
636	24,032,203	24,032,196	7
637	17,431,420	17,431,414	5
640	63,273,735	63,273,741	-7
642	53,718,709	53,718,712	-3
644	54,774,674	54,774,673	2
646	47,469,230	47,469,230	0
647	9,512,079	9,512,078	1
648	54,824,829	54,824,827	2
649	13,248,878	13,248,880	-2
650	25,610,214	25,610,217	-3
652	39,075,601	39,075,597	4
653	14,833,970	14,833,970	-1
654	20,150,202	20,150,195	7
655	12,518,120	12,518,122	-2
656	18,958,846	18,958,843	4
657	53,207,262	53,207,255	7
658	32,874,718	32,874,719	-1
659	24,223,888	24,223,881	6
660	34,681,419	34,681,425	-7
662	48,721,171	48,721,177	-6
663	70,046,044	70,046,035	9
664	60,962,954	60,962,944	10
666	5,862,758	5,862,757	1
667	30,355,752	30,355,749	3
668	17,439,159	17,439,157	2
670	26,664,820	26,664,815	5
671	63,544,424	63,544,442	-18
672	63,662,105	63,662,103	3
673	81,061,730	81,061,717	14
674	56,589,471	56,589,453	19
676	12,498,498	12,498,500	-2
677	40,045,644	40,045,647	-3
678	36,984,585	36,984,579	6
679	15,392,718	15,392,718	0
687	8,191,652	8,191,650	2
688	47,313,272	47,313,262	9
689	80,994,465	80,994,469	-4
691	29,352,017	129,352,012	6
692	3,303,549	3,303,550	0
693	22,811,177	22,811,179	-3
695	52,495,598	52,495,603	-6
756	16,304,284	16,304,279	4
757	15,138,408	15,138,405	3

Table 6.7 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) files by Station (STA3N) FY 00

FY 00				
STA3N	CDRCOST	HERC COST	DIFFERENCE	
358	2,730,339	2,730,340	-1	
402	33,354,795	33,354,801	-6	
405	19,649,152	19,649,149	2	
436	13,202,868	13,202,866	2	
437	12,774,741	12,774,740	1	
438	18,703,194	18,703,191	4	
442	12,478,879	12,478,879	-1	
452	22,348,257	22,348,262	-5	
459	27,887,436	27,887,434	2	
460	18,243,946	18,243,944	2	
463	19,220,464	19,220,465	-1	
501	58,474,210	58,474,223	-13	
502	20,774,349	20,774,348	1	
503	10,278,878	10,278,876	2	
504	23,325,376	23,325,385	-9	
506	41,602,735	41,602,736	-1	
508	58,503,145	58,503,155	-9	
509	51,843,160	51,843,160	1	
512	72,548,385	72,548,397	-12	
515	25,797,077	25,797,079	-2	
516	68,270,170	68,270,154	16	
517	12,236,867	12,236,867	0	
518	17,823,166	17,823,163	2	
519	13,235,817	13,235,818	-1	
520	36,290,886	36,290,885	1	
521	46,349,809	46,349,804	4	
523	8,712,541	8,712,559	-18	
526	48,623,273	48,623,289	-16	
528	69,633,665	69,633,669	-4	
529	15,300,358	15,300,357	1	
531	17,090,287	17,090,289	-2	
534	37,964,344	37,964,353	-10	
537	81,512,085	81,512,103	-18	
538	24,089,513	24,089,512	1	
539	33,584,798	33,584,793	5	
540	19,367,104	19,367,106	-2	
541	85,712,790	85,712,780	10	
542	13,127,405	13,127,402	3	
543	26,543,320	26,543,318	2	
544	37,529,251	37,529,261	-10	
546	85,438,476	85,438,472	3	
548	59,626,602	59,626,609	-8	
549	85,583,428	85,583,464	-36	
550	26,524,641	26,524,642	0	
552	36,840,862	36,840,859	3	
553	64,900,538	64,900,541	-3	
554	37,589,002	37,589,001	0	
556	33,651,818	33,651,825	-7	

Table 6.7 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) files by Station (STA3N) FY 00

STA3N	CDRCOST	HERC COST	DIFFERENCE
557	15,457,994	15,457,998	-4
558	37,839,911	37,839,920	-10
561	74,207,641	74,207,654	-13
562	14,268,508	14,268,511	-3
564	20,953,372	20,953,369	3
565	20,858,230	20,858,229	2
567	10,938,964	10,938,968	-3
568	28,600,849	28,600,854	-5
570	23,245,056	23,245,058	-2
573	86,466,783	86,466,783	0
575	10,271,310	10,271,308	1
578	53,228,830	53,228,833	-4
580	82,938,118	82,938,119	-1
581	26,328,704	26,328,708	-4
583	59,917,932	59,917,939	-6
584	28,765,440	28,765,440	-1
585	14,596,305	14,596,303	2
586	41,306,929	41,306,925	4
589	37,429,494	37,429,494	0
590	27,695,661	27,695,658	3
593	41,460,704	41,460,709	-5
595	30,922,956	30,922,958	-2
596	35,157,965	35,157,970	-4
598	80,925,723	80,925,726	-3
600	59,453,720	59,453,722	-2
603	36,500,157	36,500,154	3
605	46,435,277	46,435,274	3
607	22,269,354	22,269,345	9
608	18,659,607	18,659,609	-2
609	29,747,901	29,747,902	-1
610	20,494,755	20,494,757	-3
612	72,984,135	72,984,141	-6
613	27,936,187	27,936,184	3
614	44,790,703	44,790,704	-2
618	72,277,483	72,277,471	12
619	36,875,510	36,875,507	3
620	33,788,300	33,788,299	1
621	39,015,663	39,015,663	0
622	23,767,962	23,767,966	-3
623	27,485,855	27,485,853	2
626	41,101,529	41,101,521	8
629	54,527,467	54,527,474	-7
630	22,876,736	22,876,722	14
631	15,881,693	15,881,691	1
632	40,243,350	40,243,350	0
635	42,133,530	42,133,526	4
636	77,331,551	77,331,536	16
637	21,288,285	21,288,279	6
640	70,968,826	70,968,814	12

Table 6.7 Reconciliation of Local Costs between HERC Outpatient and Cost Distribution Report (CDR) files by Station (STA3N) FY 00

STA3N	CDRCOST	HERC COST	DIFFERENCE
642	56,533,409	56,533,419	-10
644	58,071,708	58,071,720	-12
646	53,537,571	53,537,562	8
647	11,047,365	11,047,364	1
648	76,270,544	76,270,539	5
649	14,712,314	14,712,314	0
650	26,059,064	26,059,064	0
652	44,455,912	44,455,921	-9
653	15,930,219	15,930,217	2
654	20,740,487	20,740,495	-8
655	15,210,944	15,210,946	-2
656	20,777,263	20,777,268	-5
657	51,625,337	51,625,324	13
658	36,940,435	36,940,442	-7
659	25,699,876	25,699,868	8
660	35,082,179	35,082,179	1
662	53,045,524	53,045,528	-4
663	75,539,491	75,539,484	7
664	65,397,840	65,397,837	4
666	6,077,112	6,077,110	1
667	36,991,625	36,991,617	9
668	22,147,180	22,147,179	1
671	66,185,231	66,185,239	-8
672	72,523,384	72,523,385	-1
673	95,257,764	95,257,743	21
674	60,558,252	60,558,251	0
676	14,123,682	14,123,680	2
677	40,549,588	40,549,585	3
678	40,159,946	40,159,942	5
679	16,523,923	16,523,918	5
687	9,490,536	9,490,536	-1
688	57,003,482	57,003,484	-2
689	86,847,617	86,847,638	-22
691	24,039,138	24,039,123	15
692	3,969,462	3,969,461	0
693	24,933,923	24,933,912	11
695	57,350,971	57,350,963	8
756	18,275,724	18,275,719	4
757	18,236,015	18,236,018	-3

We also examined descriptive statistics for the estimated costs for each CPT code and for each encounter. There is a very large range in the HERC value, with a low of \$0.12 and a high of \$17,550.04. We confirmed that these were correct; the \$0.12 was for a HCPCS for a simple bandage. The \$17,550.04 was for a custom motorized wheelchair.

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